



# SEMICONDUCTOR TECHNICAL DATA

## 1.5KE6.8 ~ 1.5KE550CA

### Transient Voltage Suppressors

Peak Pluse Power 1500W Breakdown Voltage 6.8 to 550V

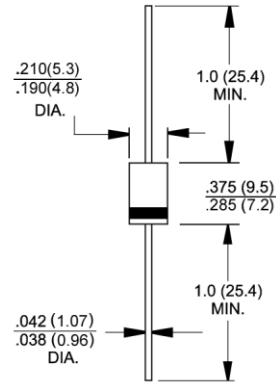
#### Features

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated junction
- ◆ 1500W peak pulse power capability on 10/1000us waveform, repetition rate (duty cycle): 0.05%
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Very fast response time
- ◆ High temperature soldering guaranteed: 265°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3 kg) tension
- ◆ Includes 1N6267 thru 1N6303A



#### Mechanical Data

- ◆ Case: Molded plastic body over passivated junction
- ◆ Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: For unidirectional types the color band denotes the cathode, which is positive with respect to the anode under normal TVS operation
- ◆ Mounting Position: Any
- ◆ Weight: 0.045oz., 1.2g



Dimensions in inches and (millimeters)

#### Devices for Bidirectional Applications

For bi-directional, use C or CA suffix for types 1.5KE6.8 thru types 1.5KE440 (e.g. 1.5KE6.8C, 1.5KE440CA). Electrical characteristics apply in both directions.

#### Maximum Ratings and Characteristics

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

| Parameter                                                                                               | Symbol          | Value          | Unit               |
|---------------------------------------------------------------------------------------------------------|-----------------|----------------|--------------------|
| Peak power dissipation with a 10/1000us waveform <sup>(1)</sup> (Fig. 1)                                | $P_{PPM}$       | Minimum 1500   | W                  |
| Peak pulse current with a 10/1000us waveform <sup>(1)</sup>                                             | $I_{PPM}$       | See Next Table | A                  |
| Steady state power dissipation at $T_J = 75^\circ\text{C}$ , lead lengths 0.375" (9.5mm) <sup>(2)</sup> | $P_{M(AV)}$     | 6.5            | W                  |
| Peak forward surge current 8.3ms single half sine-wave uni-directional only <sup>(3)</sup>              | $I_{FSM}$       | 200            | Amps               |
| Maximum instantaneous forward voltage at 100A for unidirectional only <sup>(1)</sup>                    | $V_F$           | 3.5/5.0        | Volts              |
| Typical thermal resistance junction-to-lead                                                             | $R_{\theta JL}$ | 20             | $^\circ\text{C/W}$ |
| Typical thermal resistance junction-to-ambient                                                          | $R_{\theta JA}$ | 75             | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range                                                        | $T_J, T_{STG}$  | -55 to +175    | $^\circ\text{C}$   |

#### Notes

1. Non-repetitive current pulse, per Fig 3 and derated above  $T_A = 25^\circ\text{C}$  per Fig. 2
2. Mounted on copper pad area of 1.6 x 1.6" (40 x 40 mm) per Fig. 5
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum
4.  $V_F = 3.5$  V for devices of  $V_{BR} < 220$ V, and  $V_F = 5.0$  Volt max. for devices of  $V_{BR} > 220$ V



# 1.5KE6.8 ~ 1.5KE550CA

## Electrical Characteristics

(T<sub>A</sub> = 25°C unless otherwise noted)

| JEDEC<br>Type number | First silicon<br>Part number | Breakdown voltage<br>V <sub>(BR)</sub><br>(Volts) <sup>(1)</sup> |      | Test<br>current<br>at I<br>(mA) | Stand-off<br>voltage<br>V <sub>WM</sub><br>(Volts) | Maximum<br>reverse<br>leakage<br>at V <sub>WM</sub><br>I <sub>D</sub> <sup>(4)</sup><br>(uA) | Maximum<br>peak pulse<br>current<br>I <sub>PPM</sub> <sup>(2)</sup><br>(A) | Maximum<br>clamping<br>voltage at<br>I <sub>PPM</sub><br>V <sub>c</sub> (Volts) | Maximum<br>temperature<br>coefficient<br>of V <sub>(BR)</sub><br>(% / °C) |
|----------------------|------------------------------|------------------------------------------------------------------|------|---------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|                      |                              | Min.                                                             | Max. |                                 |                                                    |                                                                                              |                                                                            |                                                                                 |                                                                           |
| 1N6267               | 1.5KE6.8                     | 6.12                                                             | 7.48 | 10                              | 5.50                                               | 1000                                                                                         | 139                                                                        | 10.8                                                                            | 0.057                                                                     |
| 1N6267A              | 1.5KE6.8A                    | 6.45                                                             | 7.14 | 10                              | 5.80                                               | 1000                                                                                         | 143                                                                        | 10.5                                                                            | 0.057                                                                     |
| 1N6268               | 1.5KE7.5                     | 6.75                                                             | 8.25 | 10                              | 6.05                                               | 500                                                                                          | 128                                                                        | 11.7                                                                            | 0.061                                                                     |
| 1N6268A              | 1.5KE7.5A                    | 7.13                                                             | 7.88 | 10                              | 6.40                                               | 500                                                                                          | 133                                                                        | 11.3                                                                            | 0.061                                                                     |
| 1N6269               | 1.5KE8.2                     | 7.38                                                             | 9.02 | 10                              | 6.63                                               | 200                                                                                          | 120                                                                        | 12.5                                                                            | 0.065                                                                     |
| 1N6269A              | 1.5KE8.2A                    | 7.79                                                             | 8.61 | 10                              | 7.02                                               | 200                                                                                          | 124                                                                        | 12.1                                                                            | 0.065                                                                     |
| 1N6270               | 1.5KE9.1                     | 8.19                                                             | 10.0 | 1.0                             | 7.37                                               | 50                                                                                           | 109                                                                        | 13.8                                                                            | 0.068                                                                     |
| 1N6270A              | 1.5KE9.1A                    | 8.65                                                             | 9.55 | 1.0                             | 7.78                                               | 50                                                                                           | 112                                                                        | 13.4                                                                            | 0.068                                                                     |
| 1N6271               | 1.5KE10                      | 9.00                                                             | 11.0 | 1.0                             | 8.10                                               | 10                                                                                           | 100                                                                        | 15.0                                                                            | 0.073                                                                     |
| 1N6271A              | 1.5KE10A                     | 9.50                                                             | 10.5 | 1.0                             | 8.55                                               | 10                                                                                           | 103                                                                        | 14.5                                                                            | 0.073                                                                     |
| 1N6272               | 1.5KE11                      | 9.90                                                             | 12.1 | 1.0                             | 8.92                                               | 5.0                                                                                          | 92.6                                                                       | 16.2                                                                            | 0.075                                                                     |
| 1N6272A              | 1.5KE11A                     | 10.5                                                             | 11.6 | 1.0                             | 9.40                                               | 5.0                                                                                          | 96.2                                                                       | 15.6                                                                            | 0.075                                                                     |
| 1N6273               | 1.5KE12                      | 10.8                                                             | 13.2 | 1.0                             | 9.72                                               | 5.0                                                                                          | 86.7                                                                       | 17.3                                                                            | 0.076                                                                     |
| 1N6273A              | 1.5KE12A                     | 11.4                                                             | 12.6 | 1.0                             | 10.2                                               | 5.0                                                                                          | 89.8                                                                       | 16.7                                                                            | 0.078                                                                     |
| 1N6274               | 1.5KE13                      | 11.7                                                             | 14.3 | 1.0                             | 10.5                                               | 5.0                                                                                          | 78.9                                                                       | 19.0                                                                            | 0.081                                                                     |
| 1N6274A              | 1.5KE13A                     | 12.4                                                             | 13.7 | 1.0                             | 11.1                                               | 5.0                                                                                          | 82.4                                                                       | 18.2                                                                            | 0.081                                                                     |
| 1N6275               | 1.5KE15                      | 13.5                                                             | 16.5 | 1.0                             | 12.1                                               | 1.0                                                                                          | 68.2                                                                       | 22.0                                                                            | 0.084                                                                     |
| 1N6275A              | 1.5KE15A                     | 14.3                                                             | 15.8 | 1.0                             | 12.8                                               | 1.0                                                                                          | 70.8                                                                       | 21.2                                                                            | 0.084                                                                     |
| 1N6276               | 1.5KE16                      | 14.4                                                             | 17.6 | 1.0                             | 12.9                                               | 1.0                                                                                          | 63.8                                                                       | 23.5                                                                            | 0.086                                                                     |
| 1N6276A              | 1.5KE16A                     | 15.2                                                             | 16.8 | 1.0                             | 13.6                                               | 1.0                                                                                          | 66.7                                                                       | 22.5                                                                            | 0.086                                                                     |
| 1N6277               | 1.5KE18                      | 16.2                                                             | 19.8 | 1.0                             | 14.5                                               | 1.0                                                                                          | 56.6                                                                       | 26.5                                                                            | 0.088                                                                     |
| 1N6277A              | 1.5KE18A                     | 17.1                                                             | 18.9 | 1.0                             | 15.3                                               | 1.0                                                                                          | 59.5                                                                       | 25.2                                                                            | 0.088                                                                     |
| 1N6278               | 1.5KE20                      | 18.0                                                             | 22.0 | 1.0                             | 16.2                                               | 1.0                                                                                          | 51.5                                                                       | 29.1                                                                            | 0.090                                                                     |
| 1N6278A              | 1.5KE20A                     | 19.0                                                             | 21.0 | 1.0                             | 17.1                                               | 1.0                                                                                          | 54.2                                                                       | 27.7                                                                            | 0.090                                                                     |
| 1N6279               | 1.5KE22                      | 19.8                                                             | 24.2 | 1.0                             | 17.8                                               | 1.0                                                                                          | 47.0                                                                       | 31.9                                                                            | 0.092                                                                     |
| 1N6279A              | 1.5KE22A                     | 20.9                                                             | 23.1 | 1.0                             | 18.8                                               | 1.0                                                                                          | 49.0                                                                       | 30.6                                                                            | 0.092                                                                     |
| 1N6280               | 1.5KE24                      | 21.6                                                             | 26.4 | 1.0                             | 19.4                                               | 1.0                                                                                          | 43.2                                                                       | 34.7                                                                            | 0.094                                                                     |
| 1N6280A              | 1.5KE24A                     | 22.8                                                             | 25.2 | 1.0                             | 20.5                                               | 1.0                                                                                          | 45.2                                                                       | 33.2                                                                            | 0.094                                                                     |
| 1N6281               | 1.5KE27                      | 24.3                                                             | 29.7 | 1.0                             | 21.8                                               | 1.0                                                                                          | 38.4                                                                       | 39.1                                                                            | 0.096                                                                     |
| 1N6281A              | 1.5KE27A                     | 25.7                                                             | 28.4 | 1.0                             | 23.1                                               | 1.0                                                                                          | 40.0                                                                       | 37.5                                                                            | 0.096                                                                     |
| 1N6282               | 1.5KE30                      | 27.0                                                             | 33.0 | 1.0                             | 24.3                                               | 1.0                                                                                          | 34.5                                                                       | 43.5                                                                            | 0.097                                                                     |
| 1N6282A              | 1.5KE30A                     | 28.5                                                             | 31.5 | 1.0                             | 25.6                                               | 1.0                                                                                          | 36.2                                                                       | 41.4                                                                            | 0.097                                                                     |
| 1N6283               | 1.5KE33                      | 29.7                                                             | 36.3 | 1.0                             | 26.8                                               | 1.0                                                                                          | 31.4                                                                       | 47.7                                                                            | 0.098                                                                     |
| 1N6283A              | 1.5KE33A                     | 31.4                                                             | 34.7 | 1.0                             | 28.2                                               | 1.0                                                                                          | 32.8                                                                       | 45.7                                                                            | 0.098                                                                     |
| 1N6284               | 1.5KE36                      | 32.4                                                             | 39.6 | 1.0                             | 29.1                                               | 1.0                                                                                          | 28.8                                                                       | 52.0                                                                            | 0.099                                                                     |
| 1N6284A              | 1.5KE36A                     | 34.2                                                             | 37.8 | 1.0                             | 30.8                                               | 1.0                                                                                          | 30.1                                                                       | 49.9                                                                            | 0.099                                                                     |
| 1N6285               | 1.5KE39                      | 35.1                                                             | 42.9 | 1.0                             | 31.6                                               | 1.0                                                                                          | 26.6                                                                       | 56.4                                                                            | 0.100                                                                     |
| 1N6285A              | 1.5KE39A                     | 37.1                                                             | 41.0 | 1.0                             | 33.3                                               | 1.0                                                                                          | 27.8                                                                       | 53.9                                                                            | 0.100                                                                     |
| 1N6286               | 1.5KE43                      | 38.7                                                             | 47.3 | 1.0                             | 34.8                                               | 1.0                                                                                          | 24.2                                                                       | 61.9                                                                            | 0.101                                                                     |
| 1N6286A              | 1.5KE43A                     | 40.9                                                             | 45.2 | 1.0                             | 36.8                                               | 1.0                                                                                          | 25.3                                                                       | 59.3                                                                            | 0.101                                                                     |
| 1N6287               | 1.5KE47                      | 42.3                                                             | 51.7 | 1.0                             | 38.1                                               | 1.0                                                                                          | 22.1                                                                       | 67.8                                                                            | 0.101                                                                     |
| 1N6287A              | 1.5KE47A                     | 44.7                                                             | 49.4 | 1.0                             | 40.2                                               | 1.0                                                                                          | 23.1                                                                       | 64.8                                                                            | 0.101                                                                     |
| 1N6288               | 1.5KE51                      | 45.9                                                             | 56.1 | 1.0                             | 41.3                                               | 1.0                                                                                          | 20.4                                                                       | 73.5                                                                            | 0.102                                                                     |
| 1N6288A              | 1.5KE51A                     | 48.5                                                             | 53.6 | 1.0                             | 43.6                                               | 1.0                                                                                          | 21.4                                                                       | 70.1                                                                            | 0.102                                                                     |
| 1N6289               | 1.5KE56                      | 50.4                                                             | 61.6 | 1.0                             | 45.4                                               | 1.0                                                                                          | 18.6                                                                       | 80.5                                                                            | 0.103                                                                     |
| 1N6289A              | 1.5KE56A                     | 53.2                                                             | 58.8 | 1.0                             | 47.8                                               | 1.0                                                                                          | 19.5                                                                       | 77.0                                                                            | 0.103                                                                     |



# 1.5KE6.8 ~ 1.5KE550CA

## Electrical Characteristics

(T<sub>A</sub>=25°C unless otherwise noted)

| JEDEC<br>Type number | First silicon<br>Part number | Breakdown voltage<br>V <sub>BR</sub> (Volts) <sup>(1)</sup> |       | Test<br>current<br>at I <sub>T</sub><br>(mA) | Stand-off<br>voltage<br>V <sub>WM</sub><br>(Volts) | Maximum<br>reverse<br>leakage<br>at V <sub>WM</sub><br>I <sub>D</sub> <sup>(2)</sup><br>(uA) | Maximum<br>peak pulse<br>current<br>I <sub>PPM</sub> <sup>(3)</sup><br>(A) | Maximum<br>clamping<br>voltage at<br>I <sub>PPM</sub><br>V <sub>C</sub> (Volts) | Maximum<br>temperature<br>coefficient<br>of V <sub>BR</sub><br>(% / °C) |
|----------------------|------------------------------|-------------------------------------------------------------|-------|----------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                      |                              | M n.                                                        | Max.  |                                              |                                                    |                                                                                              |                                                                            |                                                                                 |                                                                         |
| 1N6290               | 1.5KE62                      | 55.8                                                        | 68.2  | 1.0                                          | 50.2                                               | 1.0                                                                                          | 16.9                                                                       | 89.0                                                                            | 0.104                                                                   |
| 1N6290A              | 1.5KE62A                     | 58.9                                                        | 65.1  | 1.0                                          | 53.0                                               | 1.0                                                                                          | 17.6                                                                       | 85.0                                                                            | 0.104                                                                   |
| 1N6291               | 1.5KE68                      | 61.2                                                        | 74.8  | 1.0                                          | 55.1                                               | 1.0                                                                                          | 15.3                                                                       | 98.0                                                                            | 0.104                                                                   |
| 1N6291A              | 1.5KE68A                     | 64.6                                                        | 71.4  | 1.0                                          | 58.1                                               | 1.0                                                                                          | 16.3                                                                       | 92.0                                                                            | 0.104                                                                   |
| 1N6292               | 1.5KE75                      | 67.5                                                        | 82.5  | 1.0                                          | 60.7                                               | 1.0                                                                                          | 13.9                                                                       | 109                                                                             | 0.105                                                                   |
| 1N6292A              | 1.5KE75A                     | 71.3                                                        | 78.8  | 1.0                                          | 64.1                                               | 1.0                                                                                          | 14.6                                                                       | 104                                                                             | 0.105                                                                   |
| 1N6293               | 1.5KE82                      | 73.8                                                        | 90.2  | 1.0                                          | 66.4                                               | 1.0                                                                                          | 12.7                                                                       | 118                                                                             | 0.105                                                                   |
| 1N6293A              | 1.5KE82A                     | 77.9                                                        | 86.1  | 1.0                                          | 70.1                                               | 1.0                                                                                          | 13.3                                                                       | 113                                                                             | 0.105                                                                   |
| 1N6294               | 1.5KE91                      | 81.9                                                        | 100   | 1.0                                          | 73.7                                               | 1.0                                                                                          | 11.5                                                                       | 131                                                                             | 0.106                                                                   |
| 1N6294A              | 1.5KE91A                     | 86.5                                                        | 95.5  | 1.0                                          | 77.8                                               | 1.0                                                                                          | 12.0                                                                       | 125                                                                             | 0.106                                                                   |
| 1N6295               | 1.5KE100                     | 90.0                                                        | 110   | 1.0                                          | 81.0                                               | 1.0                                                                                          | 10.4                                                                       | 144                                                                             | 0.106                                                                   |
| 1N6295A              | 1.5KE100A                    | 95.0                                                        | 105   | 1.0                                          | 85.5                                               | 1.0                                                                                          | 10.9                                                                       | 137                                                                             | 0.106                                                                   |
| 1N6296               | 1.5KE110                     | 99.0                                                        | 121   | 1.0                                          | 89.2                                               | 1.0                                                                                          | 9.5                                                                        | 158                                                                             | 0.107                                                                   |
| 1N6296A              | 1.5KE110A                    | 105                                                         | 116   | 1.0                                          | 94.0                                               | 1.0                                                                                          | 9.9                                                                        | 152                                                                             | 0.107                                                                   |
| 1N6297               | 1.5KE120                     | 108                                                         | 132   | 1.0                                          | 97.2                                               | 1.0                                                                                          | 8.7                                                                        | 173                                                                             | 0.107                                                                   |
| 1N6297A              | 1.5KE120A                    | 114                                                         | 126   | 1.0                                          | 102                                                | 1.0                                                                                          | 9.1                                                                        | 165                                                                             | 0.107                                                                   |
| 1N6298               | 1.5KE130                     | 117                                                         | 143   | 1.0                                          | 105                                                | 1.0                                                                                          | 8.0                                                                        | 187                                                                             | 0.107                                                                   |
| 1N6298A              | 1.5KE130A                    | 124                                                         | 137   | 1.0                                          | 111                                                | 1.0                                                                                          | 8.4                                                                        | 179                                                                             | 0.107                                                                   |
| 1N6299               | 1.5KE150                     | 136                                                         | 165   | 1.0                                          | 121                                                | 1.0                                                                                          | 7.0                                                                        | 215                                                                             | 0.108                                                                   |
| 1N6299A              | 1.5KE150A                    | 143                                                         | 158   | 1.0                                          | 128                                                | 1.0                                                                                          | 7.2                                                                        | 207                                                                             | 0.106                                                                   |
| 1N6300               | 1.5KE160                     | 144                                                         | 176   | 1.0                                          | 130                                                | 1.0                                                                                          | 6.5                                                                        | 230                                                                             | 0.106                                                                   |
| 1N6300A              | 1.5KE160A                    | 152                                                         | 168   | 1.0                                          | 136                                                | 1.0                                                                                          | 6.8                                                                        | 219                                                                             | 0.108                                                                   |
| 1N6301               | 1.5KE170                     | 153                                                         | 187   | 1.0                                          | 138                                                | 1.0                                                                                          | 6.1                                                                        | 244                                                                             | 0.108                                                                   |
| 1N6301A              | 1.5KE170A                    | 162                                                         | 179   | 1.0                                          | 145                                                | 1.0                                                                                          | 6.4                                                                        | 234                                                                             | 0.108                                                                   |
| 1N6302               | 1.5KE180                     | 162                                                         | 198   | 1.0                                          | 146                                                | 1.0                                                                                          | 5.8                                                                        | 258                                                                             | 0.108                                                                   |
| 1N6302A              | 1.5KE180A                    | 171                                                         | 189   | 1.0                                          | 154                                                | 1.0                                                                                          | 6.1                                                                        | 246                                                                             | 0.108                                                                   |
| 1N6303               | 1.5KE200                     | 180                                                         | 220   | 1.0                                          | 162                                                | 1.0                                                                                          | 5.2                                                                        | 287                                                                             | 0.108                                                                   |
| 1N6303A              | 1.5KE200A *                  | 190                                                         | 210   | 1.0                                          | 171                                                | 1.0                                                                                          | 5.5                                                                        | 274                                                                             | 0.108                                                                   |
|                      | 1.5KE220                     | 198                                                         | 242   | 1.0                                          | 175                                                | 1.0                                                                                          | 4.4                                                                        | 344                                                                             | 0.108                                                                   |
|                      | 1.5KE220A *                  | 209                                                         | 231   | 1.0                                          | 185                                                | 1.0                                                                                          | 4.6                                                                        | 328                                                                             | 0.108                                                                   |
|                      | 1.5KE250                     | 225                                                         | 275   | 1.0                                          | 202                                                | 1.0                                                                                          | 4.2                                                                        | 360                                                                             | 0.110                                                                   |
|                      | 1.5KE250A                    | 237                                                         | 263   | 1.0                                          | 214                                                | 1.0                                                                                          | 4.4                                                                        | 344                                                                             | 0.110                                                                   |
|                      | 1.5KE300                     | 270                                                         | 330   | 1.0                                          | 243                                                | 1.0                                                                                          | 3.5                                                                        | 430                                                                             | 0.110                                                                   |
|                      | 1.5KE300A                    | 285                                                         | 315   | 1.0                                          | 256                                                | 1.0                                                                                          | 3.6                                                                        | 414                                                                             | 0.110                                                                   |
|                      | 1.5KE350                     | 315                                                         | 385   | 1.0                                          | 284                                                | 1.0                                                                                          | 3.0                                                                        | 504                                                                             | 0.110                                                                   |
|                      | 1.5KE350A                    | 333                                                         | 368   | 1.0                                          | 300                                                | 1.0                                                                                          | 3.1                                                                        | 482                                                                             | 0.110                                                                   |
|                      | 1.5KE400                     | 360                                                         | 440   | 1.0                                          | 324                                                | 1.0                                                                                          | 2.6                                                                        | 574                                                                             | 0.110                                                                   |
|                      | 1.5KE400A                    | 380                                                         | 420   | 1.0                                          | 342                                                | 1.0                                                                                          | 2.7                                                                        | 548                                                                             | 0.110                                                                   |
|                      | 1.5KE440                     | 396                                                         | 484   | 1.0                                          | 356                                                | 1.0                                                                                          | 2.4                                                                        | 631                                                                             | 0.110                                                                   |
|                      | 1.5KE440A                    | 418                                                         | 462   | 1.0                                          | 376                                                | 1.0                                                                                          | 2.5                                                                        | 602                                                                             | 0.110                                                                   |
|                      | 1.5KE480A                    | 456                                                         | 504   | 1.0                                          | 408                                                | 1.0                                                                                          | 2.3                                                                        | 658                                                                             | 0.110                                                                   |
|                      | 1.5KE510A                    | 485                                                         | 535   | 1.0                                          | 434                                                | 1.0                                                                                          | 2.1                                                                        | 698                                                                             | 0.110                                                                   |
|                      | 1.5KE530A                    | 503.5                                                       | 556.5 | 1.0                                          | 450                                                | 1.0                                                                                          | 2.1                                                                        | 725                                                                             | 0.110                                                                   |
|                      | 1.5KE540A                    | 513                                                         | 567   | 1.0                                          | 459                                                | 1.0                                                                                          | 2.0                                                                        | 740                                                                             | 0.110                                                                   |
|                      | 1.5KE550A                    | 522.5                                                       | 577.5 | 1.0                                          | 467                                                | 1.0                                                                                          | 2.0                                                                        | 760                                                                             | 0.110                                                                   |

- Notes:**
1. V<sub>BR</sub> measured after I<sub>T</sub> applied for 300us, I<sub>T</sub>=square wave pulse or equivalent
  2. Surge current waveform per Fig. 3 and derate per Fig. 2
  3. All terms and symbols are consistent with ANSI/IEEE CA62.35
  4. For bidirectional types with V<sub>R</sub> 10 volts and less the ID limit is doubled
  5. For parts without A, the V<sub>BR</sub> is +10%

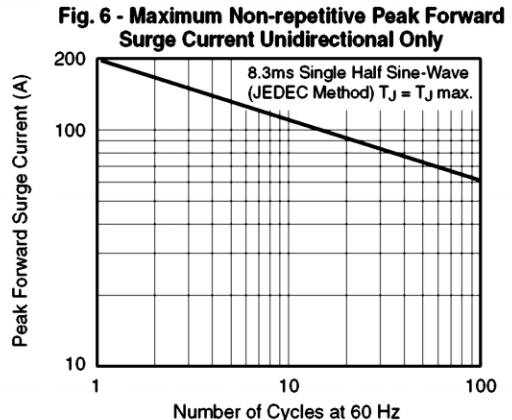
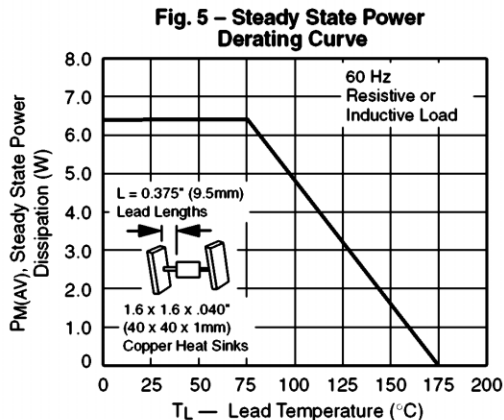
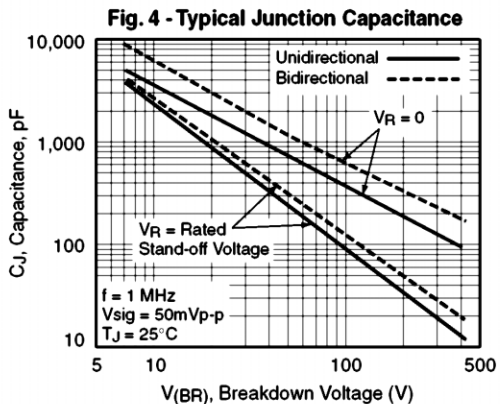
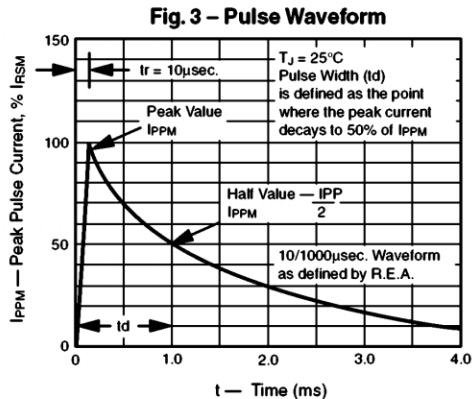
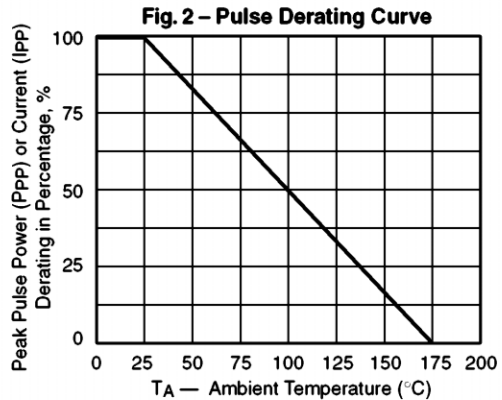
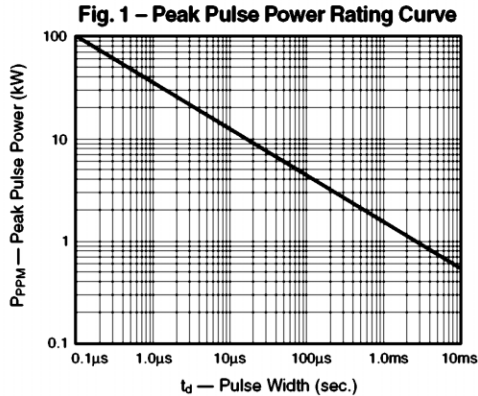
### Application:

This series of Silicon Transient Suppressors is used in applications where large voltage transients can permanently damage voltage-sensitive components. The TVS diode can be used in applications where induced lightning on rural or remote transmission lines presents a hazard to electronic circuitry (ref: R.E.A. specification P.E. 60).

This Transient Voltage Suppressor diode has a pulse power rating of 1500 watts for one millisecond. The response time of TVS diode clamping action is effectively instantaneous (1 x 10<sup>-9</sup> seconds bidirectional); therefore, they can protect integrated circuits, MOS devices, hybrids, and other voltage sensitive semiconductors and components. TVS diodes can also be used in series or parallel to increase the peak power ratings.

## RATINGS AND CHARACTERISTIC CURVES

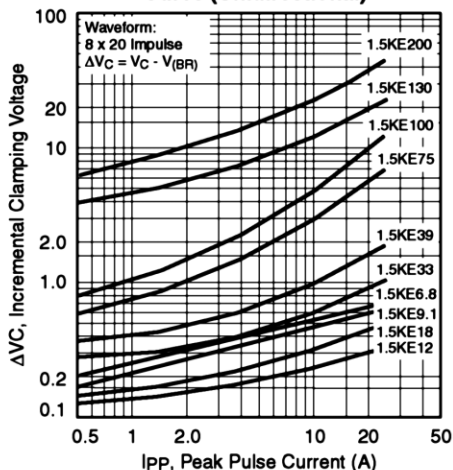
( $T_A = 25^\circ\text{C}$  unless otherwise noted)



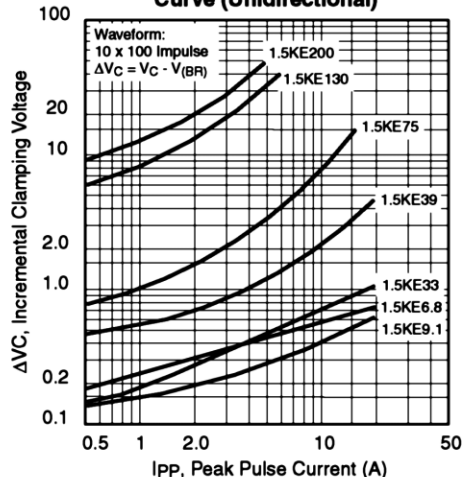
## RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

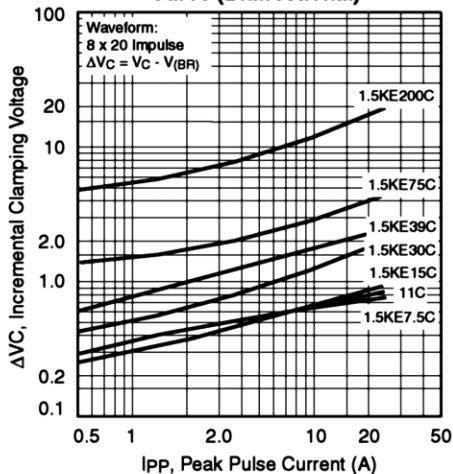
**Fig. 7 – Incremental Clamping Voltage Curve (Unidirectional)**



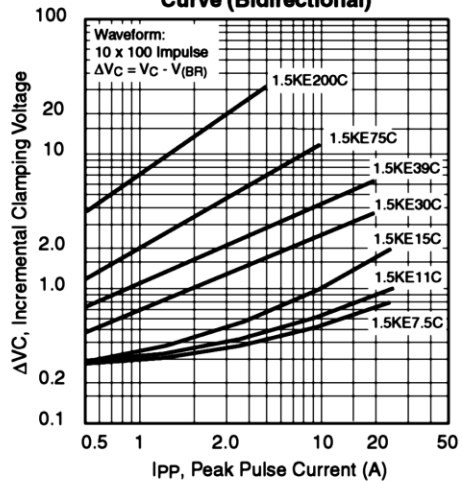
**Fig. 8 – Incremental Clamping Voltage Curve (Unidirectional)**



**Fig. 9 – Incremental Clamping Voltage Curve (Bidirectional)**



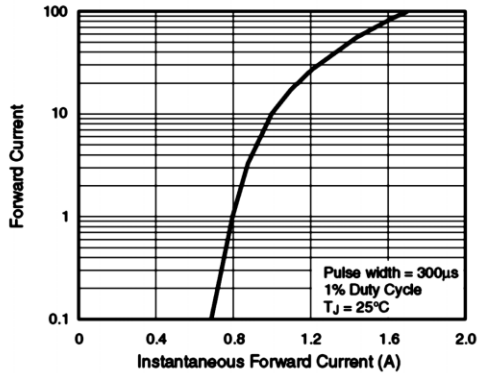
**Fig. 10 – Incremental Clamping Voltage Curve (Bidirectional)**



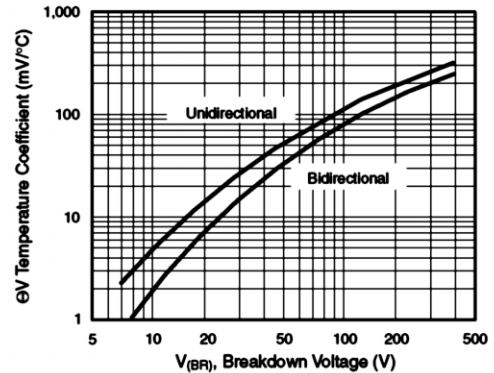
## RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig. 11 – Instantaneous Forward Voltage Characteristics Curve**



**Fig. 12 – Breakdown Voltage Temperature Coefficient Curve**



**Fig. 13 – Typical Transient Thermal Impedance**

